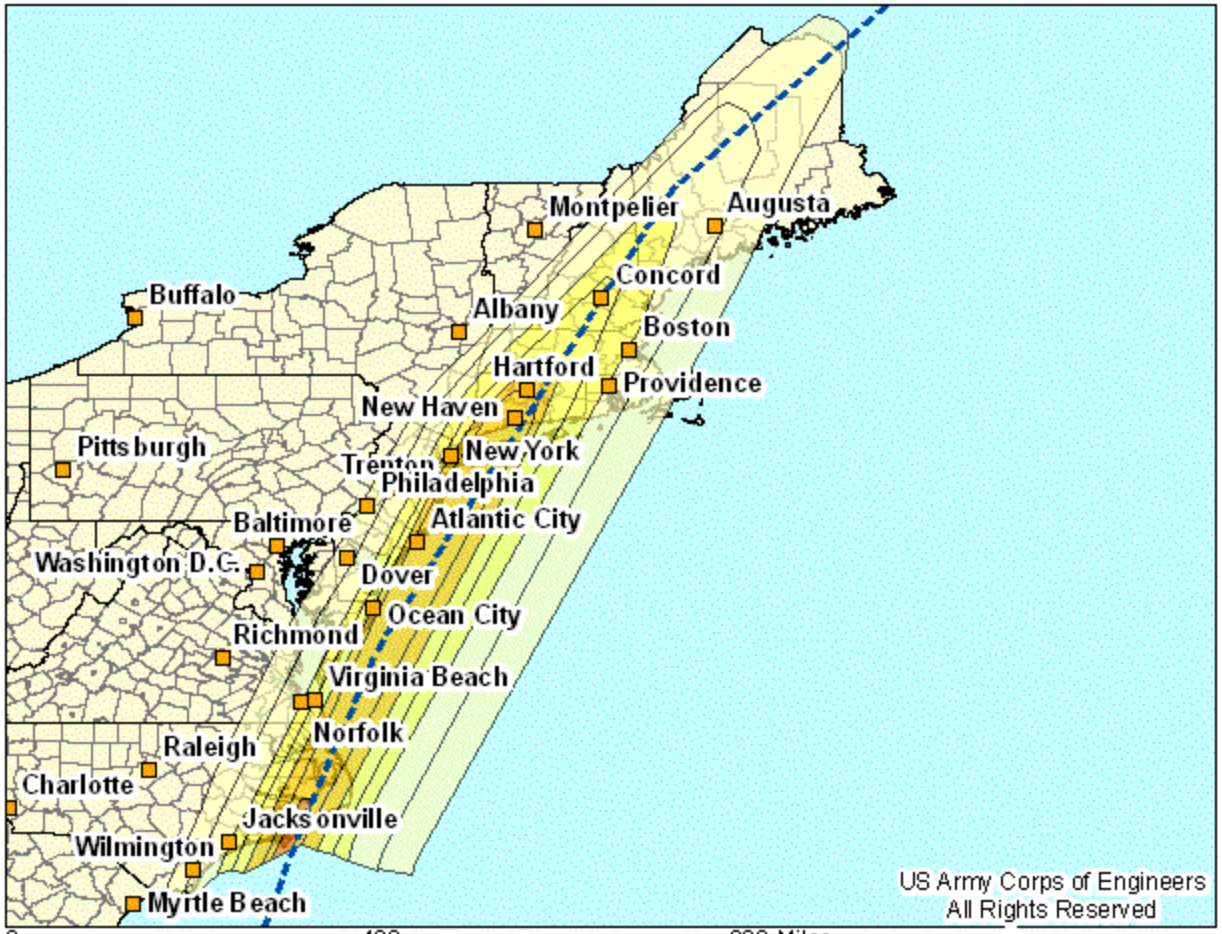
US Army Corps of Engineers

Hurricane Irene Projected Damage Areas

Landfall Expected In About 30 Hours

For Planning Purposes Only!



Post Landfall Projected Damage Areas

This model is based on a Category 3 storm making landfall near Outer Banks, NC.

Forecast Track

Projected Damage Areas

- CAT 0-type damage
- CAT 1-type damage
- CAT 2-type damage
- CAT 3-type damage
- CAT 4-type damage
- CAT 5-type damage

Information provided on this page displays a projected or actual Category 3 storm making landfall near Outer Banks, NC. These projections are based on information from the NHC (0500 EDT 08/26/2011) forecast and extrapolated by LRL staff to represent a landfall condition that has either occurred or may occur in the near future.

Details about this model may be obtained at http://www.englink.usace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Irene Projected Damage Areas

Generated By:
Siemsen, LRL 0530 EDT 08/26/2011

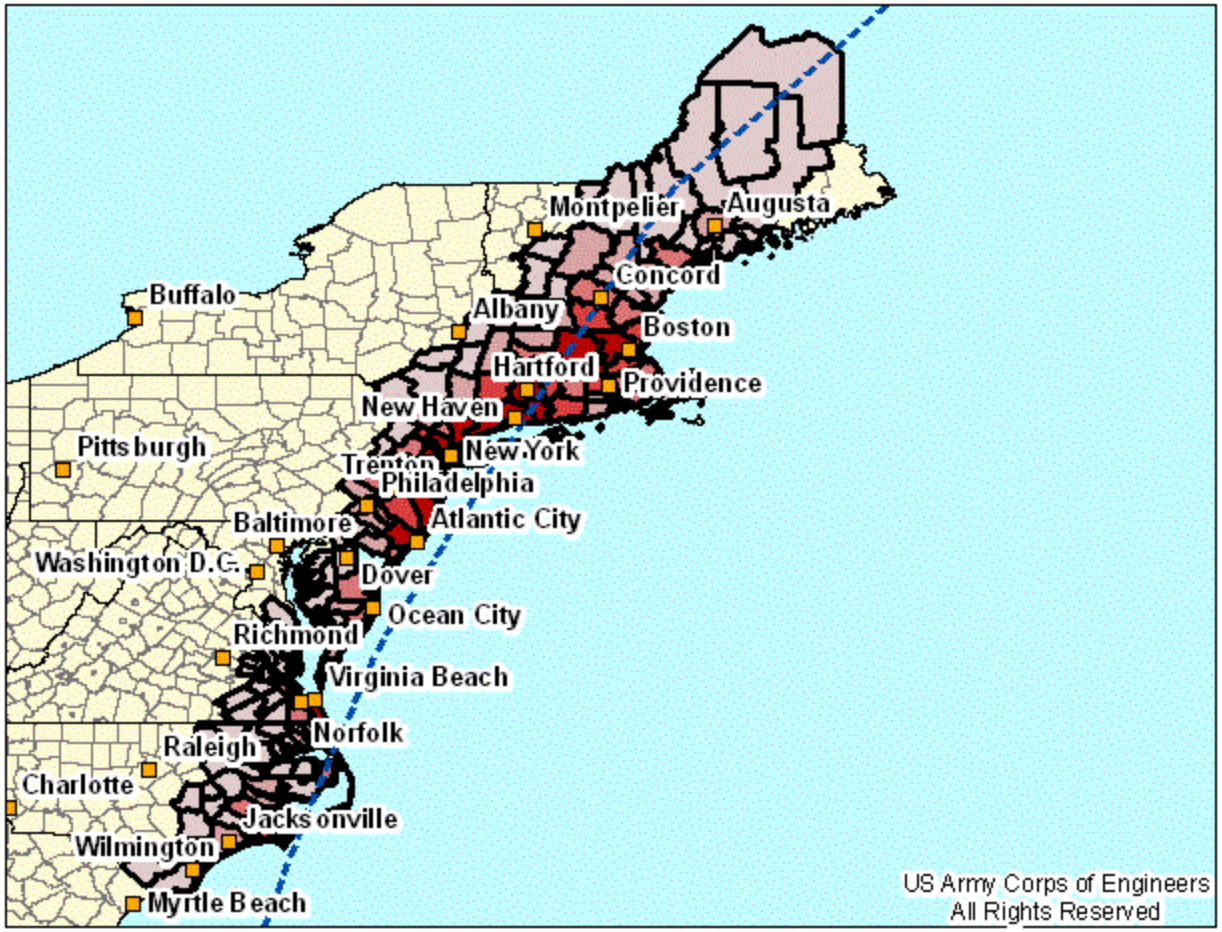
Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Debris Model

Landfall Expected In About **30** Hours

For Planning Purposes Only!



Post Landfall Debris Model Results

New York - 38,573,000 Yards
New Jersey - 20,334,000 Yards
Connecticut - 19,295,000 Yards
Massachusetts - 8,667,000 Yards
North Carolina - 2,927,000 Yards
Virginia - 2,913,000 Yards
New Hampshire - 2,573,000 Yards
Pennsylvania - 1,102,000 Yards
Maine - 1,032,000 Yards
Rhode Island - 1,005,000 Yards
Delaware - 508,000 Yards
Maryland - 475,000 Yards
Vermont - 143,000 Yards

Model results per County on following page

This model is based on a Category 3 storm making landfall near Outer Banks, NC.

Forecast Track

Debris

- < 100,000 cubic yards
- 100,000 - 249,999 cubic yards
- 250,000 - 499,999 cubic yards
- 500,000 - 999,999 cubic yards
- >1,000,000 cubic yards

Information provided on this page displays a Category 3 storm making landfall near Outer Banks, NC. These projections are based on information from the NHC (0500 EDT 08/26/2011) forecast. The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds, but does not include volume that may be covered by private insurance. Debris volume may include storm surge generated debris.

Details about this model may be obtained at http://www.englink.usace.army.mil
or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Irene Debris Model	
Generated By: Siemsen, LRL 0530 EDT 08/26/2011	
Sources: HURREVAC LRL-DEBRIS	

US Army Corps of Engineers

Hurricane Irene Debris Model

Landfall Expected In About 30 Hours

For Planning Purposes Only!

State	Yards per State	County	Yards per County
Connecticut		Fairfield County	5,258,000
		Hartford County	4,924,000
		Litchfield County	769,000
		Middlesex County	1,180,000
		New Haven County	5,706,000
		New London County	559,000
		Tolland County	628,000
		Windham County	271,000
Connecticut	19,295,000		
Delaware		Kent County	83,000
		New Castle County	2,000
		Sussex County	423,000
Delaware	508,000		
Maine		Androscoggin County	94,000
		Aroostook County	28,000
		Cumberland County	260,000
		Franklin County	29,000
		Kennebec County	106,000
		Knox County	19,000
		Lincoln County	18,000
		Oxford County	99,000
		Penobscot County	36,000
		Piscataquis County	13,000
		Sagadahoc County	28,000
		Somerset County	47,000
		Waldo County	16,000
		York County	239,000
Maine	1,032,000		

State	Yards per State	County	Yards per County
Maryland		Caroline County	16,000
		Dorchester County	22,000
		Queen Anne's County	< 1,000
		Somerset County	30,000
		St. Mary's County	10,000
		Talbot County	5,000
		Wicomico County	112,000
		Worcester County	280,000
Maryland	475,000		
Massachusetts		Barnstable County	47,000
		Berkshire County	121,000
		Bristol County	350,000
		Dukes County	8,000
		Essex County	747,000
		Franklin County	156,000
		Hampden County	1,845,000
		Hampshire County	350,000
		Middlesex County	1,847,000
		Norfolk County	591,000
		Plymouth County	293,000
		Suffolk County	441,000
		Worcester County	1,871,000
Massachusetts	8,667,000		
New Hampshire		Belknap County	154,000
		Carroll County	154,000
		Cheshire County	172,000
		Coos County	45,000

The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds, but does not include volume that may be covered by private insurance. Debris volume may include storm surge generated debris.

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Source: US Army Corps of Engineers, All Rights Reserved

Hurricane Irene Debris Model

Generated By:
Siemsen, LRL 0530 EDT 08/26/2011

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Debris Model

Landfall Expected In About 30 Hours

For Planning Purposes Only!

State	Yards per State	County	Yards per County
New Hampshire		Grafton County	114,000
(continued)		Hillsborough County	834,000
		Merrimack County	408,000
		Rockingham County	440,000
		Strafford County	204,000
		Sullivan County	48,000
New Hampshire	2,573,000		
New Jersey		Atlantic County	1,749,000
		Bergen County	1,822,000
		Burlington County	531,000
		Camden County	419,000
		Cape May County	494,000
		Cumberland County	163,000
		Essex County	1,072,000
		Gloucester County	216,000
		Hudson County	1,073,000
		Hunterdon County	51,000
		Mercer County	359,000
		Middlesex County	1,141,000
		Monmouth County	3,824,000
		Morris County	405,000
		Ocean County	5,276,000
		Passaic County	563,000
		Salem County	34,000
		Somerset County	317,000
		Sussex County	52,000
		Union County	768,000
		Warren County	5,000
New Jersey	20,334,000		

State	Yards per State	County	Yards per County
New York		Bronx County	1,602,000
		Columbia County	28,000
		Dutchess County	248,000
		Greene County	< 1,000
		Kings County	5,765,000
		Nassau County	8,750,000
		New York County	1,654,000
		Orange County	197,000
		Putnam County	175,000
		Queens County	7,623,000
		Rensselaer County	2,000
		Richmond County	825,000
		Rockland County	313,000
		Suffolk County	9,277,000
		Sullivan County	2,000
		Ulster County	76,000
		Westchester County	2,036,000
New York	38,573,000		
North Carolina		Beaufort County	108,000
		Bertie County	30,000
		Brunswick County	71,000
		Camden County	51,000
		Carteret County	552,000
		Chowan County	29,000
		Columbus County	< 1,000
		Craven County	285,000
		Currituck County	178,000
		Dare County	386,000

The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds, but does not include volume that may be covered by private insurance. Debris volume may include storm surge generated debris.

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Source: US Army Corps of Engineers, All Rights Reserved

Hurricane Irene Debris Model

Generated By:
Siemsen, LRL 0530 EDT 08/26/2011

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Debris Model

Landfall Expected In About 30 Hours

For Planning Purposes Only!

State	Yards per State	County	Yards per County
North Carolina		Duplin County	20,000
(continued)		Edgecombe County	6,000
		Gates County	16,000
		Greene County	7,000
		Halifax County	3,000
		Hertford County	21,000
		Hyde County	93,000
		Jones County	23,000
		Lenoir County	32,000
		Martin County	25,000
		New Hanover County	243,000
		Northampton County	6,000
		Onslow County	224,000
		Pamlico County	80,000
		Pasquotank County	145,000
		Pender County	53,000
		Perquimans County	39,000
		Pitt County	97,000
		Tyrrell County	60,000
		Washington County	44,000
		Wayne County	< 1,000
North Carolina	2,927,000		
Pennsylvania		Bucks County	264,000
		Delaware County	132,000
		Montgomery County	113,000
		Philadelphia County	593,000
Pennsylvania	1,102,000		
Rhode Island		Bristol County	46,000
		Kent County	162,000
		Newport County	71,000
		Providence County	585,000
		Washington County	141,000
Rhode Island	1,005,000		
Vermont		Bennington County	7,000
		Essex County	< 1,000
		Orange County	4,000
		Windham County	90,000
		Windsor County	42,000
Vermont	143,000		
Virginia		Accomack County	125,000
		Charles City County	< 1,000
		Chesapeake city	398,000
		Franklin city	6,000
		Gloucester County	30,000
		Hampton city	152,000
		Isle of Wight County	33,000
		James City County	45,000
		King and Queen County	< 1,000
		Lancaster County	9,000
		Mathews County	10,000
		Middlesex County	8,000
		New Kent County	< 1,000
		Newport News city	254,000
		Norfolk city	356,000
		Northampton County	29,000
		Northumberland County	8,000

The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds, but does not include volume that may be covered by private insurance. Debris volume may include storm surge generated debris.

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Hurricane Irene Debris Model

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Sources:
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LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Debris Model

Landfall Expected In About 30 Hours

For Planning Purposes Only!

State	Yards per State	County	Yards per County
Virginia		Poquoson city	13,000
(continued)		Portsmouth city	141,000
		Richmond County	< 1,000
		Southampton County	9,000
		Suffolk city	91,000
		Surry County	5,000
		Sussex County	2,000
		Virginia Beach city	1,124,000
		Williamsburg city	7,000
		York County	58,000
Virginia	2,913,000		

The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds, but does not include volume that may be covered by private insurance. Debris volume may include storm surge generated debris.

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Hurricane Irene Debris Model

Generated By:
Siemsen, LRL 0530 EDT 08/26/2011

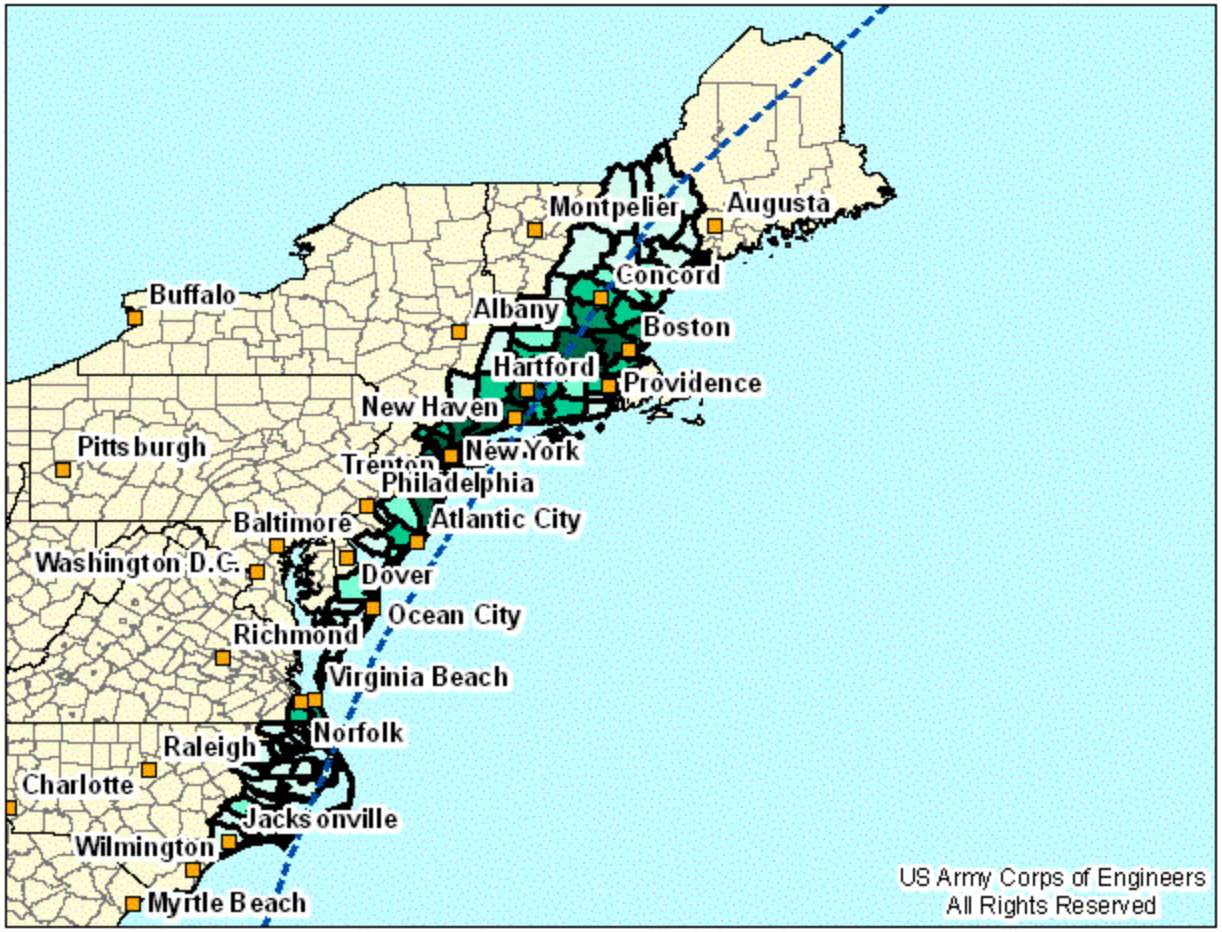
Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Commodities Model

Landfall Expected In About **30** Hours

For Planning Purposes Only!



Post Landfall Water Model Results

Day One / Day Two / Day Three

New York – 221/442/884 Truckloads
New Jersey – 77/154/308 Truckloads
Connecticut – 53/126/251 Truckloads
Massachusetts – 54/107/213 Truckloads
New Hampshire – 21/42/84 Truckloads
Virginia – 14/28/56 Truckloads
North Carolina – 9/18/36 Truckloads
Rhode Island – 5/10/20 Truckloads
Maine – 3/6/13 Truckloads
Delaware – 2/4/7 Truckloads
Maryland – 2/3/6 Truckloads
Vermont – 1/1/1 Truckloads

Model results per County on following page

This model is based on a Category 3 storm making landfall near Outer Banks, NC.

Forecast Track

Commodities

- < 5 Trucks Each
- 5 - 10 Trucks Each
- 11 - 20 Trucks Each
- 21 - 40 Trucks Each
- > 40 Trucks Each

Information provided on this page displays a Category 3 storm making landfall near Outer Banks, NC. These projections are based on information from the NHC ***(0500 EDT 08/26/2011)*** forecast. The amount of commodities forecasted is based on Mission Guide Book requirements and SME input. The graphic represents daily needs with a ramp-up in the distribution system – three days for Points of Distribution (PODs) to be fully in place and operational. Volume shown is for each commodity – water and ice. Commodity need may be supplied by multiple agencies and/or sources.

Details about this model may be obtained at http://www.englink.usace.army.mil
or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Irene Commodities Model	
Generated By: Siemsen, LRL 0530 EDT 08/26/2011	
Sources: HURREVAC LRL-DEBRIS	

US Army Corps of Engineers

Hurricane Irene Commodities Model

Landfall Expected In About 30 Hours

For Planning Purposes Only!

State	Truckloads per State	County	Truckloads per County
Connecticut		Fairfield County	64
		Hartford County	62
		Litchfield County	14
		Middlesex County	12
		New Haven County	60
		New London County	19
		Tolland County	11
		Windham County	9
Connecticut	251		
Delaware		Sussex County	7
Delaware	7		
Maine		Androscoggin County	1
		Cumberland County	2
		Franklin County	1
		Oxford County	4
		York County	5
Maine	13		
Maryland		Somerset County	1
		Wicomico County	1
		Worcester County	4
Maryland	6		
Massachusetts		Berkshire County	1
		Essex County	21
		Franklin County	5
		Hampden County	33
		Hampshire County	11
		Middlesex County	74
		Norfolk County	11
(continued)		Worcester County	57
Massachusetts	213		
New Hampshire		Belknap County	5
		Carroll County	4
		Cheshire County	6
		Coos County	1
		Grafton County	1
		Hillsborough County	29
		Merrimack County	11
		Rockingham County	17
		Strafford County	9
		Sullivan County	1
New Hampshire	84		
New Jersey		Atlantic County	19
		Bergen County	53
		Burlington County	5
		Camden County	1
		Cape May County	7
		Cumberland County	1
		Essex County	34
		Hudson County	44
		Mercer County	1
		Middlesex County	26
		Monmouth County	46
		Ocean County	41
		Passaic County	11

Source: US Army Corps of Engineers, All Rights Reserved

The amount of commodities forecasted is based on Mission Guide Book requirements and SME input and the above table indicates suggested daily needs based on full deployment of a commodities distribution system. Volume shown is for each commodity – water and ice. Commodity need may be supplied by multiple agencies and/or sources.

Details about this model may be obtained at http://www.englink.usace.army.mil
or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Irene Commodities Model

Generated By:
Siemsen, LRL 0530 EDT 08/26/2011

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Commodities Model

Landfall Expected In About **30** Hours

For Planning Purposes Only!

State	Truckloads per State	County	Truckloads per County
New Jersey		Union County	19
New Jersey	308		
New York		Bronx County	98
		Dutchess County	4
		Kings County	179
		Nassau County	96
		New York County	114
		Putnam County	7
		Queens County	165
		Richmond County	35
		Rockland County	12
		Suffolk County	107
		Westchester County	67
New York	884		
North Carolina		Beaufort County	2
		Bertie County	1
		Camden County	1
		Carteret County	5
		Chowan County	1
		Craven County	6
		Currituck County	2
		Dare County	3
		Gates County	1
		Hyde County	1
		Jones County	1
		Martin County	1
		Onslow County	4
		Pamlico County	1
		Pasquotank County	3

State	Truckloads per State	County	Truckloads per County
North Carolina		Perquimans County	1
(continued)		Tyrrell County	1
		Washington County	1
North Carolina	36		
Rhode Island		Kent County	3
		Providence County	14
		Washington County	3
Rhode Island	20		
Vermont		Windham County	1
Vermont	1		
Virginia		Accomack County	3
		Chesapeake city	12
		Norfolk city	8
		Northampton County	1
		Portsmouth city	1
		Virginia Beach city	31
Virginia	56		

Source: US Army Corps of Engineers, All Rights Reserved

The amount of commodities forecasted is based on Mission Guide Book requirements and SME input and the above table indicates suggested daily needs based on full deployment of a commodities distribution system. Volume shown is for each commodity – water and ice. Commodity need may be supplied by multiple agencies and/or sources.

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Hurricane Irene Commodities Model

Generated By:
Siemsen, LRL 0530 EDT 08/26/2011

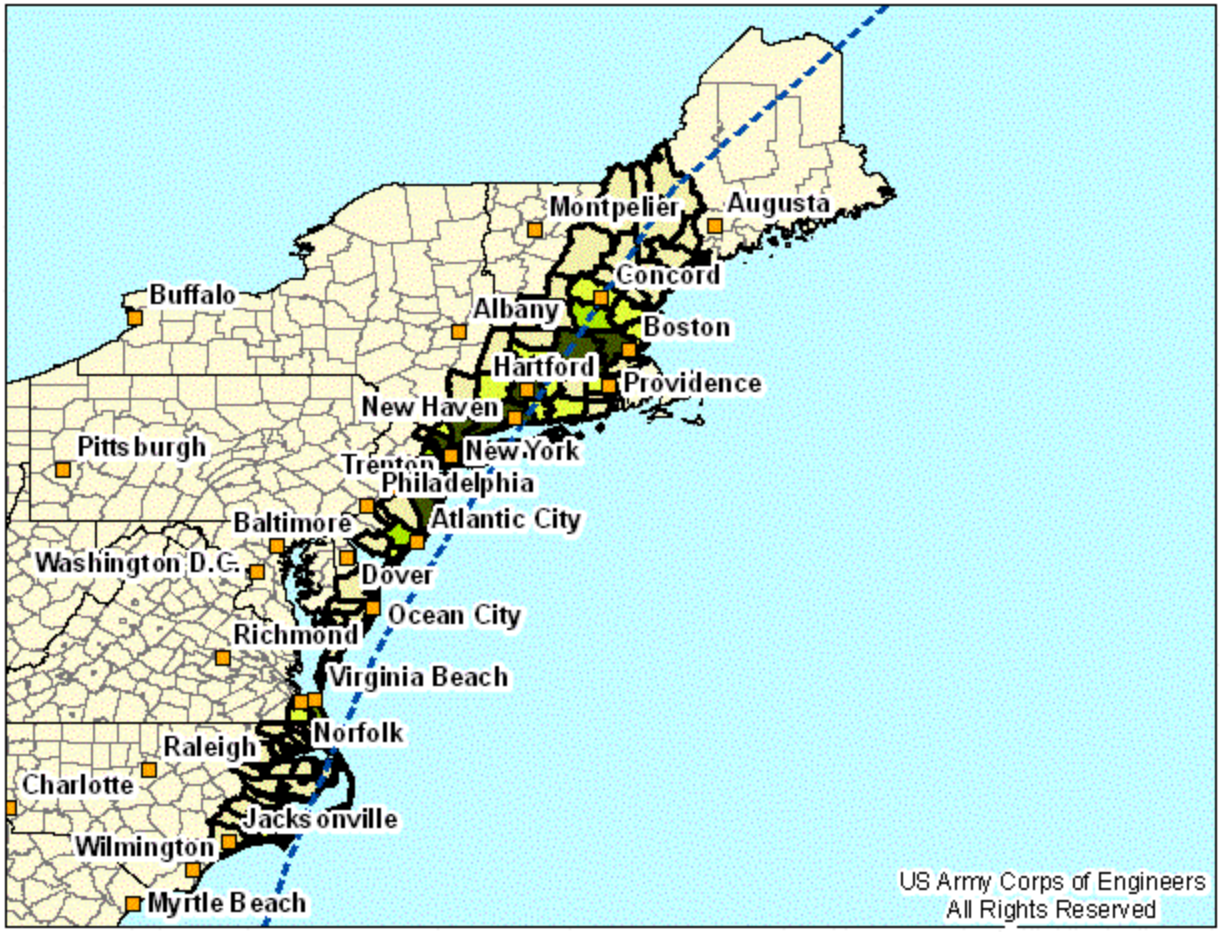
Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Temporary Roofing Model

Landfall Expected In About 30 Hours

For Planning Purposes Only!



Post Landfall Temporary Roofing Model Results

New York - 147,300
Connecticut - 72,600
New Jersey - 65,500
Massachusetts - 43,000
New Hampshire - 16,400
Virginia - 11,300
North Carolina - 8,900
Rhode Island - 3,600
Maine - 2,500
Maryland - 1,500
Delaware - 1,500
Vermont - 300

Model results per County on following page

This model is based on a Category 3 storm making landfall near Outer Banks, NC.

Forecast Track

Temporary Roofing

- < 2,000 units
- 2,000 - 3,999 units
- 4,000 - 5,999 units
- 6,000 - 9,999 units
- > 10,000 units

Information provided on this page displays a Category 3 storm making landfall near Outer Banks, NC. These projections are based on information from the NHC (0500 EDT 08/26/2011) forecast. Temporary roofing is based on 5% in CAT 1, 8% in CAT 2 and 12% in CAT 3.

Details about this model may be obtained at http://www.englink.usace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Irene Roofing Model

Generated By:
Siemsen, LRL 0530 EDT 08/26/2011

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Temporary Roofing Model

Landfall Expected In About 30 Hours

For Planning Purposes Only!

State	House Units per State	County	House Units per County
Connecticut		Fairfield County	19,100
		Hartford County	18,600
		Litchfield County	3,800
		Middlesex County	3,900
		New Haven County	18,400
		New London County	3,900
		Tolland County	3,200
		Windham County	1,700
Connecticut	72,600		
Delaware		Sussex County	1,500
Delaware	1,500		
Maine		Androscoggin County	< 100
		Cumberland County	400
		Franklin County	< 100
		Oxford County	1,000
		York County	1,100
Maine	2,500		
Maryland		Somerset County	< 100
		Wicomico County	200
		Worcester County	1,300
Maryland	1,500		
Massachusetts		Berkshire County	200
		Essex County	3,700
		Franklin County	1,100
		Hampden County	9,600
		Hampshire County	2,200
		Middlesex County	13,500
		Norfolk County	1,800
(continued)		Worcester County	10,900
Massachusetts	43,000		
New Hampshire		Belknap County	1,300
		Carroll County	1,000
		Cheshire County	1,100
		Coos County	< 100
		Grafton County	200
		Hillsborough County	5,600
		Merrimack County	2,100
		Rockingham County	3,400
		Strafford County	1,700
		Sullivan County	< 100
New Hampshire	16,400		
New Jersey		Atlantic County	5,200
		Bergen County	10,500
		Burlington County	800
		Camden County	< 100
		Cape May County	2,100
		Cumberland County	200
		Essex County	4,600
		Hudson County	4,500
		Mercer County	< 100
		Middlesex County	4,800
		Monmouth County	12,400
		Ocean County	15,300
		Passaic County	1,700

Temporary roofing is based on 5% in CAT 1, 8% in CAT 2 and 12% in CAT 3.

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Source: US Army Corps of Engineers, All Rights Reserved

Hurricane Irene Roofing Model

Generated By:
Siemsen, LRL 0530 EDT 08/26/2011

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Temporary Roofing Model

Landfall Expected In About 30 Hours

For Planning Purposes Only!

State	House Units per State	County	House Units per County
New Jersey		Union County	3,400
New Jersey	65,500		
New York		Bronx County	4,900
		Dutchess County	700
		Kings County	20,700
		Nassau County	31,800
		New York County	800
		Putnam County	1,400
		Queens County	31,600
		Richmond County	7,200
		Rockland County	2,100
		Suffolk County	34,600
		Westchester County	11,500
New York	147,300		
North Carolina		Beaufort County	300
		Bertie County	< 100
		Camden County	300
		Carteret County	2,200
		Chowan County	200
		Craven County	1,200
		Currituck County	700
		Dare County	1,200
		Gates County	< 100
		Hyde County	200
		Jones County	< 100
		Martin County	< 100
		Onslow County	500
		Pamlico County	400
		Pasquotank County	900

State	House Units per State	County	House Units per County
North Carolina		Perquimans County	300
(continued)		Tyrrell County	200
		Washington County	300
North Carolina	8,900		
Rhode Island		Kent County	500
		Providence County	2,400
		Washington County	700
Rhode Island	3,600		
Vermont		Windham County	300
Vermont	300		
Virginia		Accomack County	800
		Chesapeake city	2,500
		Norfolk city	1,300
		Northampton County	300
		Portsmouth city	< 100
		Virginia Beach city	6,400
Virginia	11,300		

Temporary roofing is based on 5% in CAT 1, 8% in CAT 2 and 12% in CAT 3.

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Hurricane Irene Roofing Model

Generated By:
Siemsen, LRL 0530 EDT 08/26/2011

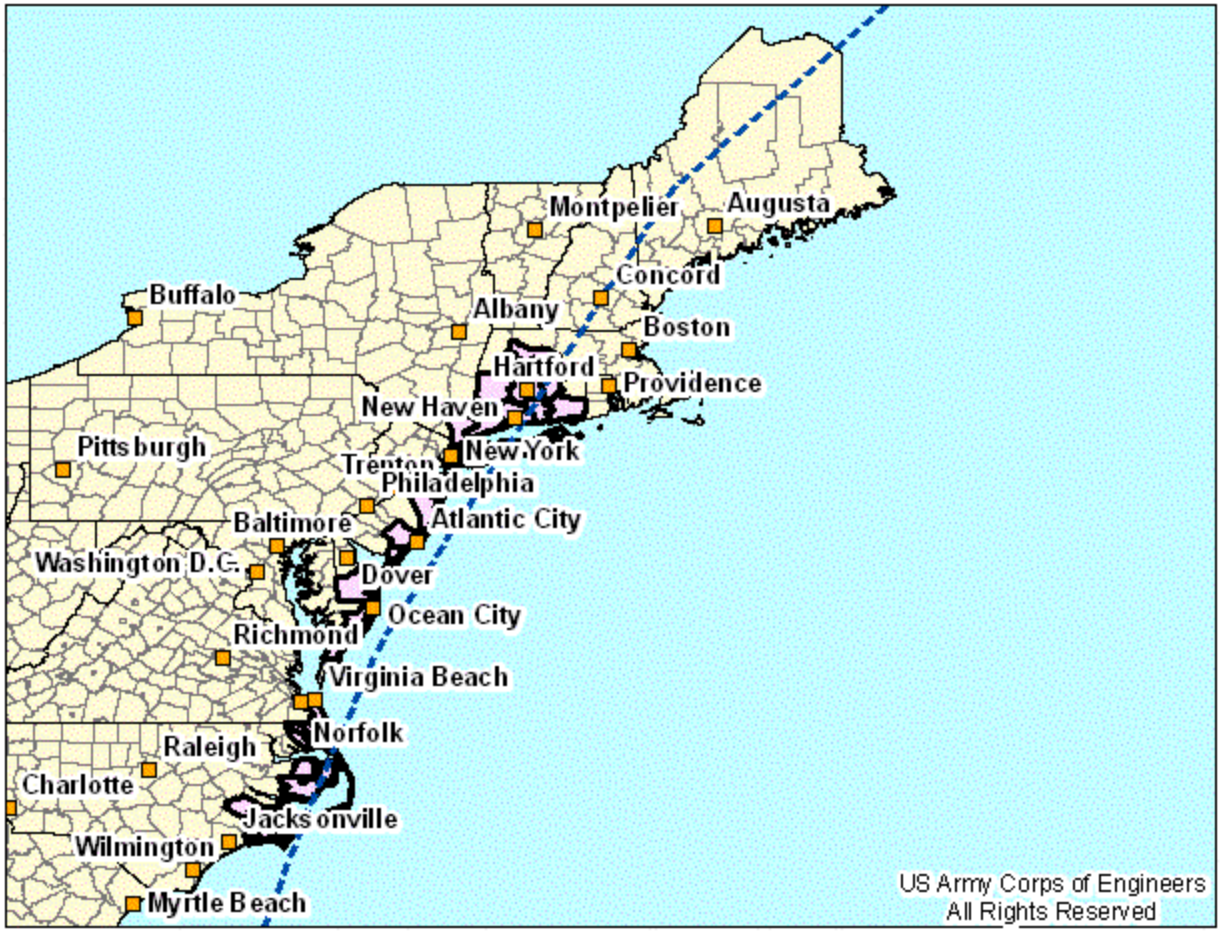
Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Temporary Housing Model

Landfall Expected In About 30 Hours

For Planning Purposes Only!



Post Landfall Temporary Housing Model Results

New York - 2,400
Connecticut - 800
New Jersey - 200
Massachusetts - 200

Model results per County on following page

This model is based on a Category 3 storm making landfall near Outer Banks, NC.

Forecast Track

Temporary Housing

- < 2,000 units
- 2,000 - 3,999 units
- 4,000 - 5,999 units
- 6,000 - 9,999 units
- > 10,000 units

Information provided on this page displays a Category 3 storm making landfall near Outer Banks, NC. These projections are based on information from the NHC (0500 EDT 08/26/2011) forecast. Temporary housing is based on 0.5% in CAT 2 and 1% in CAT 3. The number indicated represents a possible need but not necessarily the scope of mission for USACE.

Details about this model may be obtained at http://www.englink.usace.army.mil
or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Irene Housing Model	
Generated By: Siemsen, LRL 0530 EDT 08/26/2011	
Sources: HURREVAC LRL-DEBRIS	Page 13 of 27

US Army Corps of Engineers

Hurricane Irene Temporary Housing Model

Landfall Expected In About 30 Hours

For Planning Purposes Only!

State	House Units per State	County	House Units per County
Connecticut		Fairfield County	200
		Hartford County	300
		Litchfield County	< 100
		Middlesex County	< 100
		New Haven County	300
		New London County	< 100
		Tolland County	< 100
Connecticut	800		
Delaware		Sussex County	< 100
Delaware			
Maryland		Worcester County	< 100
Maryland			
Massachusetts		Hampden County	200
		Hampshire County	< 100
Massachusetts	200		
New Jersey		Atlantic County	< 100
		Cape May County	< 100
		Monmouth County	< 100
		Ocean County	200
New Jersey	200		
New York		Bronx County	< 100
		Kings County	800
		Nassau County	400
		Queens County	800
		Suffolk County	400
		Westchester County	< 100

State	House Units per State	County	House Units per County
New York	2,400		
(continued)			
North Carolina		Camden County	< 100
		Carteret County	< 100
		Craven County	< 100
		Currituck County	< 100
		Dare County	< 100
		Hyde County	< 100
		Pamlico County	< 100
		Pasquotank County	< 100
		Tyrrell County	< 100
North Carolina			
Virginia		Accomack County	< 100
		Virginia Beach city	< 100
Virginia			

Temporary housing is based on 0.5% in CAT 2 and 1% in CAT 3.
The number indicated represents a possible need but not necessarily the scope of mission for USACE.

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Source: US Army Corps of Engineers, All Rights Reserved

Hurricane Irene Housing Model

Generated By:
Siemsen, LRL 0530 EDT 08/26/2011

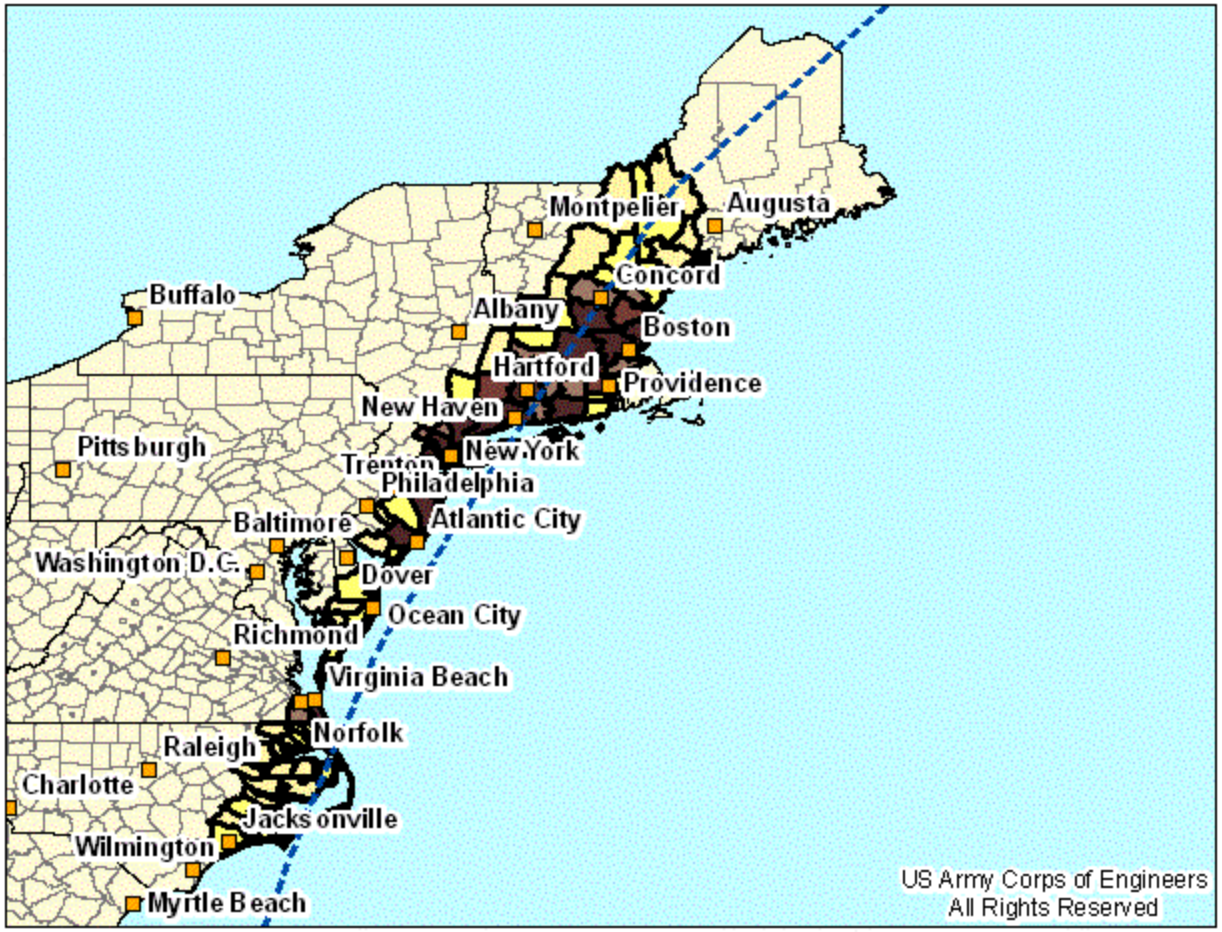
Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Population Model

Landfall Expected In About **30** Hours

For Planning Purposes Only!



Post Landfall Population Model Results

New York - 12,547,000
New Jersey - 4,297,000
Connecticut - 3,531,000
Massachusetts - 3,003,000
New Hampshire - 1,115,000
Virginia - 759,000
North Carolina - 386,000
Rhode Island - 260,000
Maine - 136,000
Delaware - 96,000
Maryland - 68,000
Vermont - 10,000

Model results per County on following page

This model is based on a Category 3 storm making landfall near Outer Banks, NC.

Forecast Track

Population

- < 25,000 persons
- 25,000 - 99,999 persons
- 100,000 - 174,999 persons
- 175,000 - 249,999 persons
- > 250,000 persons

Information provided on this page displays a Category 3 storm making landfall near Outer Banks, NC. These projections are based on information from the NHC (0500 EDT 08/26/2011) forecast. The numbers of persons included in this model output are those that would be included within estimated hurricane force winds (Census 2000 values adjusted to July 2010 values).

Details about this model may be obtained at http://www.englink.usace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Irene Population Model	
Generated By: Siemsen, LRL 0530 EDT 08/26/2011	
Sources: HURREVAC LRL-DEBRIS	Page 15 of 27

US Army Corps of Engineers

Hurricane Irene Population Model

Landfall Expected In About 30 Hours

For Planning Purposes Only!

State	Population per State	County	Population per County
Connecticut		Fairfield County	910,000
		Hartford County	882,000
		Litchfield County	187,000
		Middlesex County	166,000
		New Haven County	851,000
		New London County	265,000
		Tolland County	152,000
		Windham County	118,000
Connecticut	3,531,000		
Delaware		Sussex County	96,000
Delaware	96,000		
Maine		Androscoggin County	< 1,000
		Cumberland County	22,000
		Franklin County	< 1,000
		Oxford County	45,000
		York County	69,000
Maine	136,000		
Maryland		Somerset County	5,000
		Wicomico County	14,000
		Worcester County	49,000
Maryland	68,000		
Massachusetts		Berkshire County	11,000
		Essex County	289,000
		Franklin County	69,000
		Hampden County	470,000
		Hampshire County	156,000
		Middlesex County	1,052,000

State	Population per State	County	Population per County
Massachusetts		Norfolk County	148,000
(continued)		Worcester County	808,000
Massachusetts	3,003,000		
New Hampshire		Belknap County	62,000
		Carroll County	48,000
		Cheshire County	72,000
		Coos County	< 1,000
		Grafton County	11,000
		Hillsborough County	406,000
		Merrimack County	147,000
		Rockingham County	242,000
		Strafford County	124,000
		Sullivan County	3,000
New Hampshire	1,115,000		
New Jersey		Atlantic County	264,000
		Bergen County	753,000
		Burlington County	59,000
		Camden County	< 1,000
		Cape May County	97,000
		Cumberland County	12,000
		Essex County	482,000
		Hudson County	616,000
		Mercer County	6,000
		Middlesex County	366,000
		Monmouth County	643,000
		Ocean County	578,000
		Passaic County	149,000

The number of persons estimated to be within the hurricane force winds comes from Census 2000 values adjusted to July 2010 values.

Details about this model may be obtained at http://www.englink.usace.army.mil
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Source: US Army Corps of Engineers, All Rights Reserved

Hurricane Irene Population Model

Generated By:
Siemsen, LRL 0530 EDT 08/26/2011

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Population Model

Landfall Expected In About **30** Hours

For Planning Purposes Only!

State	Population per State	County	Population per County
New Jersey		Union County	272,000
New Jersey	4,297,000		
New York		Bronx County	1,392,000
		Dutchess County	49,000
		Kings County	2,547,000
		Nassau County	1,367,000
		New York County	1,615,000
		Putnam County	91,000
		Queens County	2,355,000
		Richmond County	494,000
		Rockland County	160,000
		Suffolk County	1,521,000
		Westchester County	956,000
New York	12,547,000		
North Carolina		Beaufort County	18,000
		Bertie County	< 1,000
		Camden County	10,000
		Carteret County	66,000
		Chowan County	10,000
		Craven County	76,000
		Currituck County	25,000
		Dare County	35,000
		Gates County	< 1,000
		Hyde County	6,000
		Jones County	4,000
		Martin County	< 1,000
		Onslow County	50,000
		Pamlico County	13,000
		Pasquotank County	42,000

State	Population per State	County	Population per County
North Carolina		Perquimans County	13,000
(continued)		Tyrrell County	5,000
		Washington County	13,000
North Carolina	386,000		
Rhode Island		Kent County	29,000
		Providence County	193,000
		Washington County	38,000
Rhode Island	260,000		
Vermont		Windham County	10,000
Vermont	10,000		
Virginia		Accomack County	38,000
		Chesapeake city	166,000
		Norfolk city	105,000
		Northampton County	14,000
		Portsmouth city	< 1,000
		Virginia Beach city	436,000
Virginia	759,000		

The number of persons estimated to be within the hurricane force winds comes from Census 2000 values adjusted to July 2010 values.

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Source: US Army Corps of Engineers, All Rights Reserved

Hurricane Irene Population Model

Generated By:
Siemsen, LRL 0530 EDT 08/26/2011

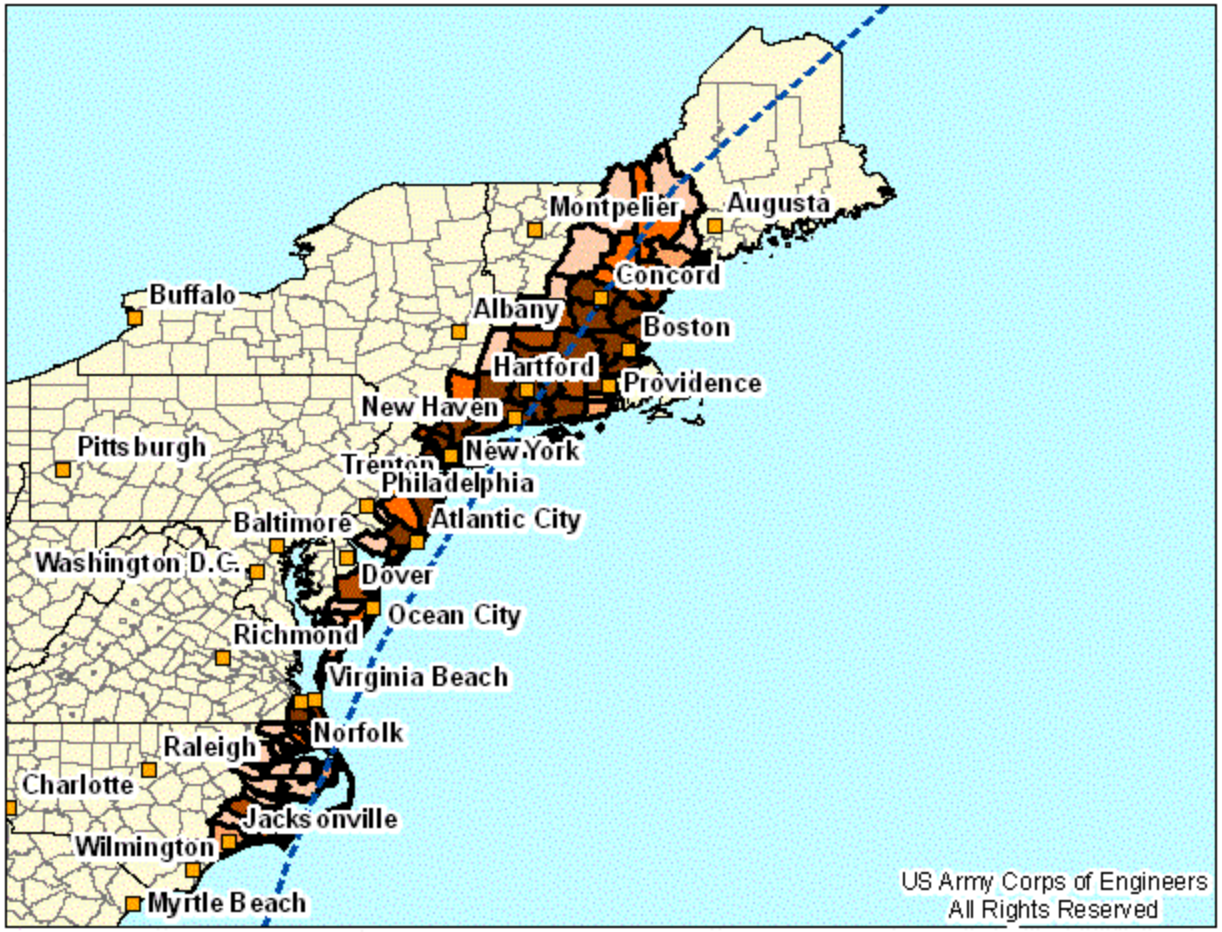
Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Households Model

Landfall Expected In About **30** Hours

For Planning Purposes Only!



Post Landfall Households Model Results

New York - 4,589,000
New Jersey - 1,591,000
Connecticut - 1,352,000
Massachusetts - 1,127,000
New Hampshire - 423,000
Virginia - 279,000
North Carolina - 149,000
Rhode Island - 101,000
Maine - 54,000
Delaware - 42,000
Maryland - 29,000
Vermont - 5,000

Model results per County on following page

This model is based on a Category 3 storm making landfall near Outer Banks, NC.

Forecast Track

Households

- < 7,500 households
- 7,500 - 14,999 households
- 15,000 - 24,999 households
- 25,000 - 49,999 households
- > 50000 households

Information provided on this page displays a Category 3 storm making landfall near Outer Banks, NC. These projections are based on information from the NHC (0500 EDT 08/26/2011) forecast. The numbers of households included in this model output are those that would be included within estimated hurricane force winds (Census 2000 values adjusted to July 2010 values).

Details about this model may be obtained at http://www.englink.usace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Irene Households Model	
Generated By: Siemsen, LRL 0530 EDT 08/26/2011	
Sources: HURREVAC LRL-DEBRIS	Page 18 of 27

US Army Corps of Engineers

Hurricane Irene Households Model

Landfall Expected In About 30 Hours

For Planning Purposes Only!

State	Households per State	County	Households per County
Connecticut		Fairfield County	335,000
		Hartford County	345,000
		Litchfield County	74,000
		Middlesex County	66,000
		New Haven County	330,000
		New London County	102,000
		Tolland County	55,000
		Windham County	45,000
Connecticut	1,352,000		
Delaware		Sussex County	42,000
Delaware	42,000		
Maine		Androscoggin County	< 1,000
		Cumberland County	9,000
		Franklin County	< 1,000
		Oxford County	19,000
		York County	26,000
Maine	54,000		
Maryland		Somerset County	2,000
		Wicomico County	6,000
		Worcester County	21,000
Maryland	29,000		
Massachusetts		Berkshire County	5,000
		Essex County	105,000
		Franklin County	29,000
		Hampden County	181,000
		Hampshire County	58,000
		Middlesex County	392,000
		Norfolk County	51,000
		Worcester County	306,000
Massachusetts	1,127,000		
New Hampshire		Belknap County	25,000
		Carroll County	20,000
		Cheshire County	28,000
		Coos County	< 1,000
		Grafton County	5,000
		Hillsborough County	154,000
		Merrimack County	56,000
		Rockingham County	88,000
		Strafford County	47,000
		Sullivan County	< 1,000
New Hampshire	423,000		
New Jersey		Atlantic County	100,000
		Bergen County	285,000
		Burlington County	18,000
		Camden County	< 1,000
		Cape May County	40,000
		Cumberland County	3,000
		Essex County	171,000
		Hudson County	233,000
		Mercer County	3,000
		Middlesex County	131,000
		Monmouth County	235,000
		Ocean County	227,000
		Passaic County	49,000

The number of households estimated to be within the hurricane force winds comes from Census 2000 values adjusted to July 2010 values.

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Source: US Army Corps of Engineers, All Rights Reserved

Hurricane Irene Households Model

Generated By:
Siemsen, LRL 0530 EDT 08/26/2011

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Households Model

Landfall Expected In About 30 Hours

For Planning Purposes Only!

State	Households per State	County	Households per County
New Jersey		Union County	96,000
New Jersey	1,591,000		
New York		Bronx County	485,000
		Dutchess County	17,000
		Kings County	912,000
		Nassau County	459,000
		New York County	776,000
		Putnam County	31,000
		Queens County	827,000
		Richmond County	174,000
		Rockland County	55,000
		Suffolk County	503,000
		Westchester County	350,000
New York	4,589,000		
North Carolina		Beaufort County	8,000
		Bertie County	< 1,000
		Camden County	4,000
		Carteret County	28,000
		Chowan County	4,000
		Craven County	29,000
		Currituck County	10,000
		Dare County	15,000
		Gates County	< 1,000
		Hyde County	2,000
		Jones County	2,000
		Martin County	< 1,000
		Onslow County	13,000
		Pamlico County	5,000
		Pasquotank County	16,000

State	Households per State	County	Households per County
North Carolina		Perquimans County	6,000
(continued)		Tyrrell County	2,000
		Washington County	5,000
North Carolina	149,000		
Rhode Island		Kent County	11,000
		Providence County	75,000
		Washington County	15,000
Rhode Island	101,000		
Vermont		Windham County	5,000
Vermont	5,000		
Virginia		Accomack County	15,000
		Chesapeake city	59,000
		Norfolk city	40,000
		Northampton County	6,000
		Portsmouth city	< 1,000
		Virginia Beach city	159,000
Virginia	279,000		

The number of households estimated to be within the hurricane force winds comes from Census 2000 values adjusted to July 2010 values.

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Hurricane Irene Households Model

Generated By:
Siemsen, LRL 0530 EDT 08/26/2011

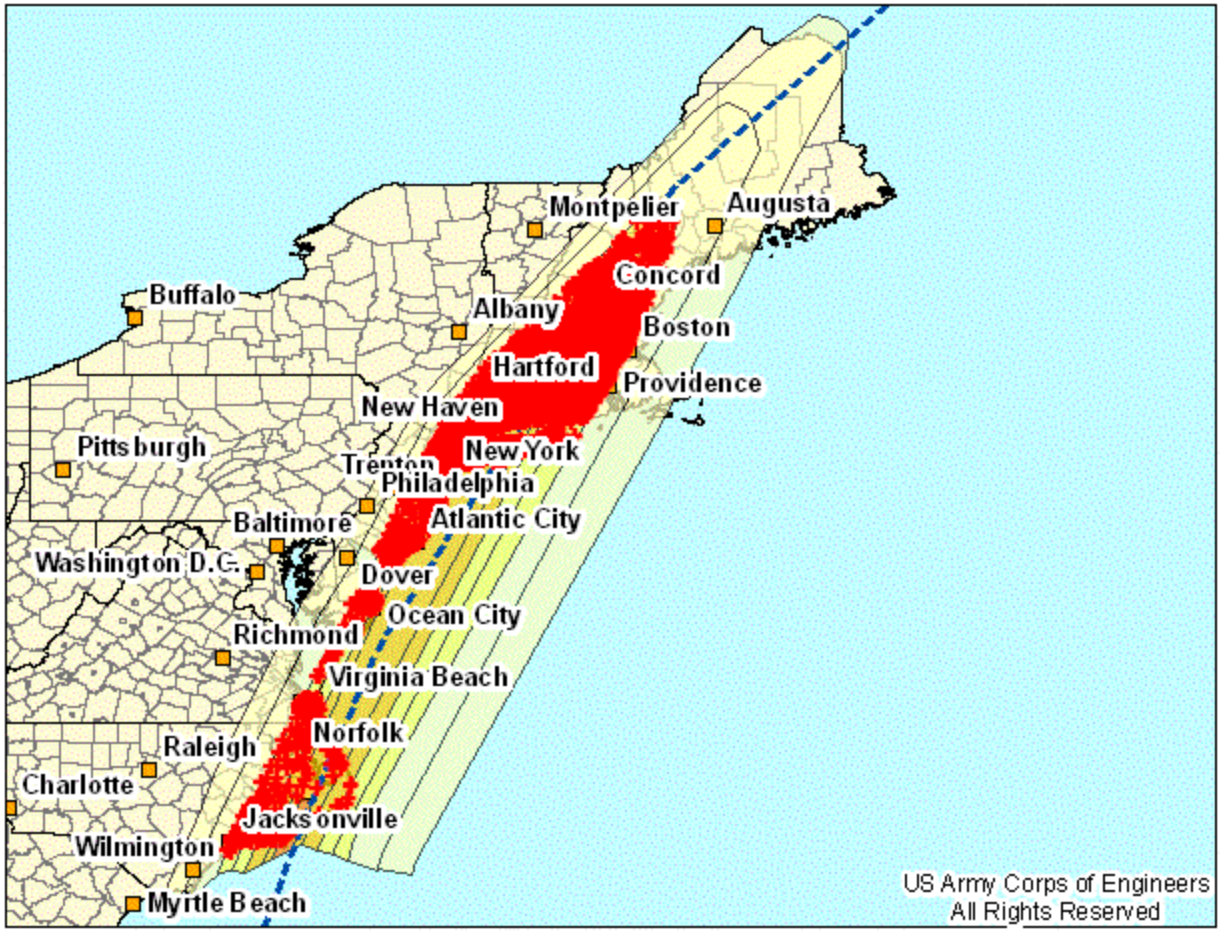
Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Fire Stations

Landfall Expected In About 30 Hours

For Planning Purposes Only!



0 400 800 Miles

Most Probable Landfall Fire Stations Inside Hurricane Force Winds

New York - 817
New Jersey - 592
Connecticut - 585
Massachusetts - 406
New Hampshire - 240
North Carolina - 163
Maine - 71
Rhode Island - 62
Virginia - 61
Maryland - 23
Delaware - 19
Vermont - 3

Model results per County on following page

This model is based on a Category 3 storm making landfall near Outer Banks, NC.

\+ Fire Stations

Forecast Track

Information provided on this page displays a Category 3 storm making landfall near Outer Banks, NC. These projections are based on information from the NHC (0500 EDT 08/26/2011) forecast.

The number of fire stations included in this output are those that would be included within estimated hurricane force winds (data source: HSIP Gold 2011).

Details about this model may be obtained at http://www.englink.usace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

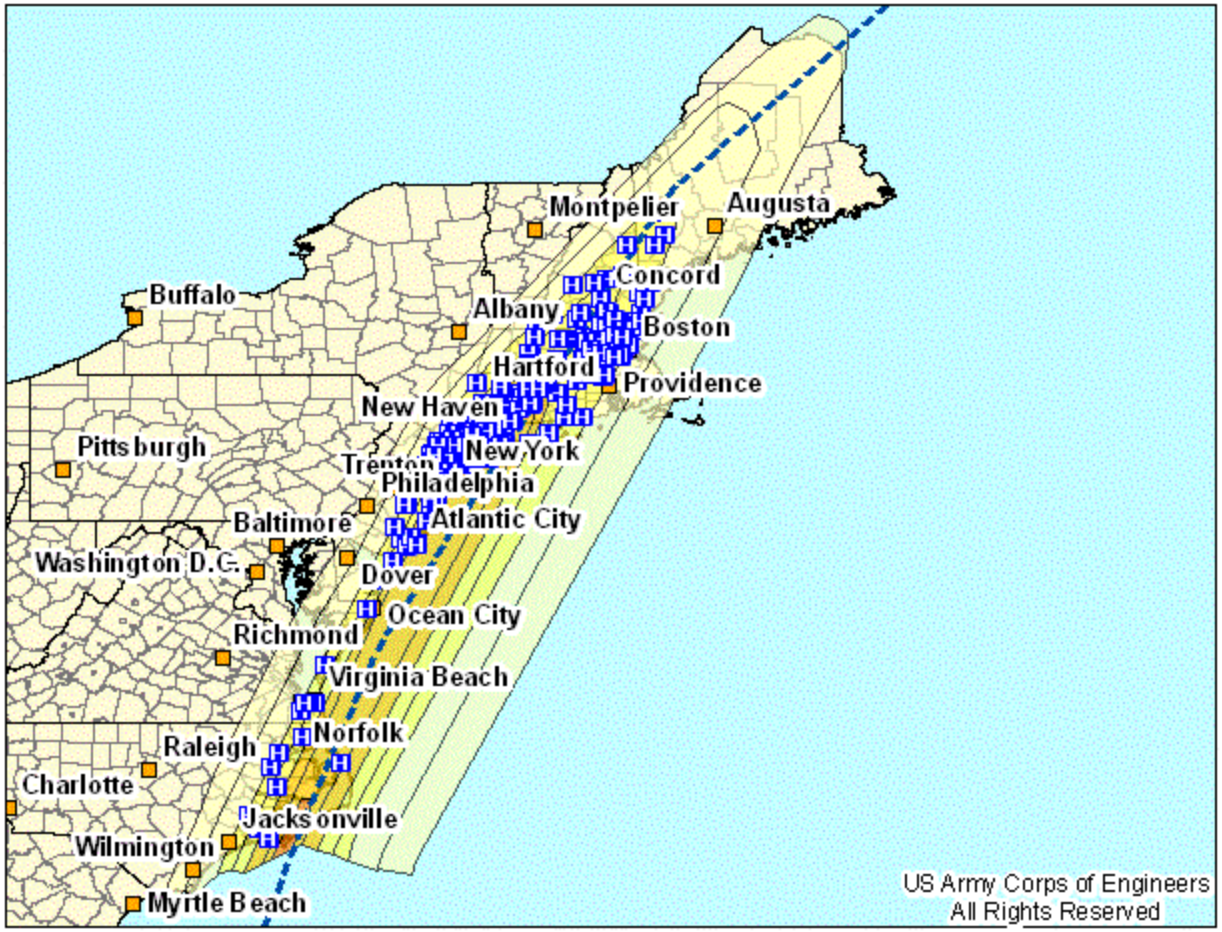
Hurricane Irene Fire Stations	
Generated By: Siemsen, LRL 0530 EDT 08/26/2011	
Sources: HURREVAC LRL-DEBRIS	Page 21 of 27

US Army Corps of Engineers

Hurricane Irene Hospitals

Landfall Expected In About 30 Hours

For Planning Purposes Only!



Most Probable Landfall Hospitals Inside Hurricane Force Winds

New York - 106
New Jersey - 65
Massachusetts - 59
Connecticut - 45
New Hampshire - 23
Virginia - 8
North Carolina - 8
Rhode Island - 5
Maine - 5
Vermont - 2
Maryland - 1
Delaware - 1

Model results per County on following page

This model is based on a Category 3 storm making landfall near Outer Banks, NC.

H Hospitals

Forecast Track

Information provided on this page displays a Category 3 storm making landfall near Outer Banks, NC. These projections are based on information from the NHC (0500 EDT 08/26/2011) forecast.

The number of hospitals included in this output are those that would be included within estimated hurricane force winds (data source: HSIP Gold 2011).

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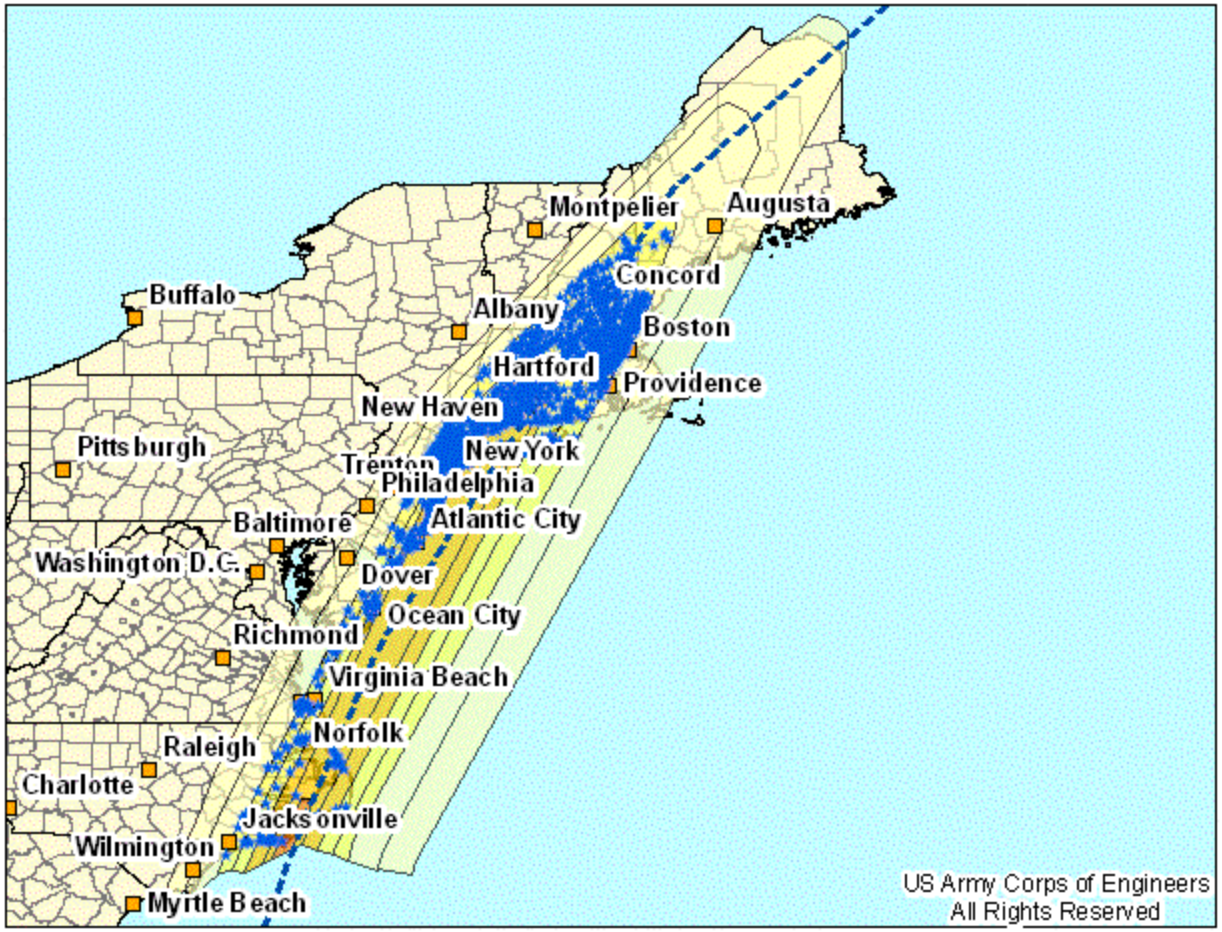
Hurricane Irene Hospitals	
Generated By: Siemsen, LRL 0530 EDT 08/26/2011	
Sources: HURREVAC LRL-DEBRIS	Page 22 of 27

US Army Corps of Engineers

Hurricane Irene Law Enforcement

Landfall Expected In About **30** Hours

For Planning Purposes Only!



Most Probable Landfall Law Enforcement Inside Hurricane Force Winds

New York - 401
Massachusetts - 300
New Jersey - 276
Connecticut - 209
New Hampshire - 171
North Carolina - 75
Virginia - 33
Rhode Island - 18
Maryland - 15
Maine - 14
Delaware - 12
Vermont - 3

Model results per County on following page

This model is based on a Category 3 storm making landfall near Outer Banks, NC.

★ Law Enforcement

Forecast Track

Information provided on this page displays a Category 3 storm making landfall near Outer Banks, NC. These projections are based on information from the NHC (0500 EDT 08/26/2011) forecast.

The number of law enforcement included in this output are those that would be included within estimated hurricane force winds (data source: HSIP Gold 2011).

Details about this model may be obtained at http://www.englink.usace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

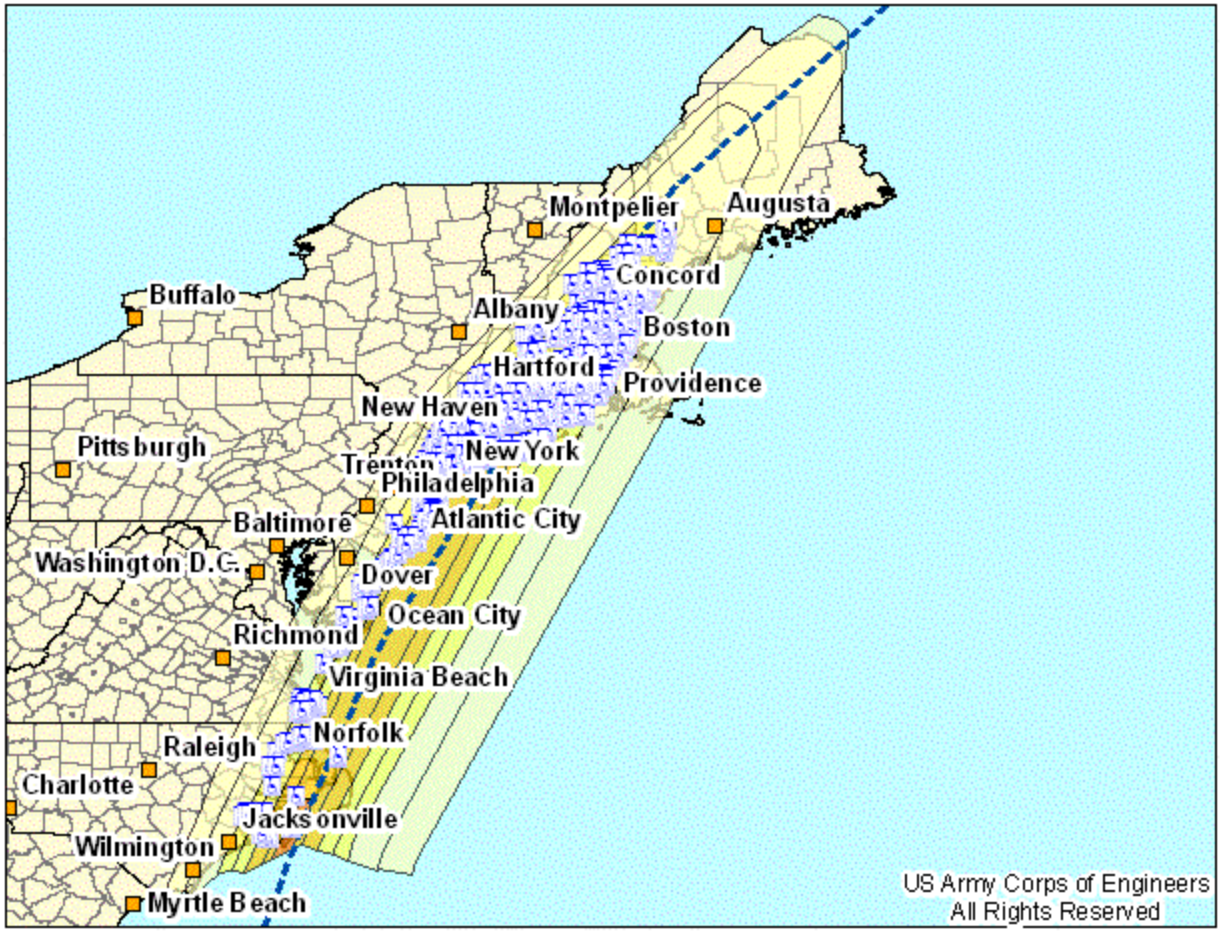
Hurricane Irene Law Enforcement	
Generated By: Siemsen, LRL 0530 EDT 08/26/2011	
Sources: HURREVAC LRL-DEBRIS	Page 23 of 27

US Army Corps of Engineers

Hurricane Irene Nursing Homes

Landfall Expected In About 30 Hours

For Planning Purposes Only!



Most Probable Landfall Nursing Homes Inside Hurricane Force Winds

New York - 465
Connecticut - 418
Massachusetts - 335
New Jersey - 224
New Hampshire - 205
Virginia - 60
Rhode Island - 45
North Carolina - 44
Maine - 32
Maryland - 9
Delaware - 9
Vermont - 6

Model results per County on following page

This model is based on a Category 3 storm making landfall near Outer Banks, NC.

Nursing Homes
Forecast Track

Information provided on this page displays a Category 3 storm making landfall near Outer Banks, NC. These projections are based on information from the NHC (0500 EDT 08/26/2011) forecast.

The number of nursing homes included in this output are those that would be included within estimated hurricane force winds (data source: HSIP Gold 2011).

Details about this model may be obtained at http://www.englink.usace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

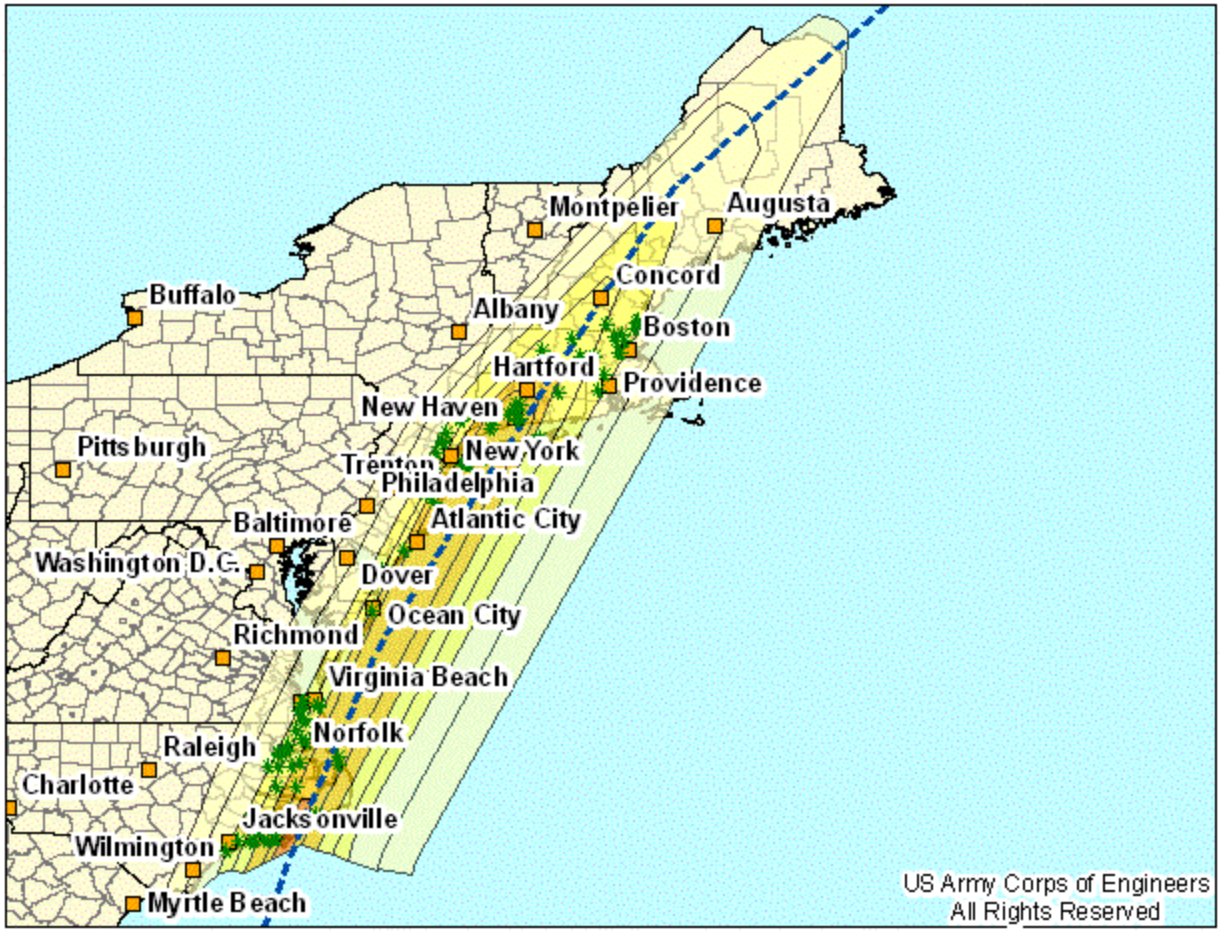
Hurricane Irene Nursing Homes	
Generated By: Siemsen, LRL 0530 EDT 08/26/2011	
Sources: HURREVAC LRL-DEBRIS	

US Army Corps of Engineers

Hurricane Irene Potable Water

Landfall Expected In About **30** Hours

For Planning Purposes Only!



0 400 800 Miles

Most Probable Landfall Potable Water Inside Hurricane Force Winds

North Carolina - 32
New York - 16
Massachusetts - 16
New Jersey - 11
Connecticut - 11
Virginia - 10
Rhode Island - 2
New Hampshire - 1
Maryland - 1

Model results per County on following page

This model is based on a Category 3 storm making landfall near Outer Banks, NC.

Potable Water
Forecast Track

Information provided on this page displays a Category 3 storm making landfall near Outer Banks, NC. These projections are based on information from the NHC (0500 EDT 08/26/2011) forecast.

The number of potable water included in this output are those that would be included within estimated hurricane force winds (data source: HSIP Gold 2011).

Details about this model may be obtained at http://www.englink.usace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

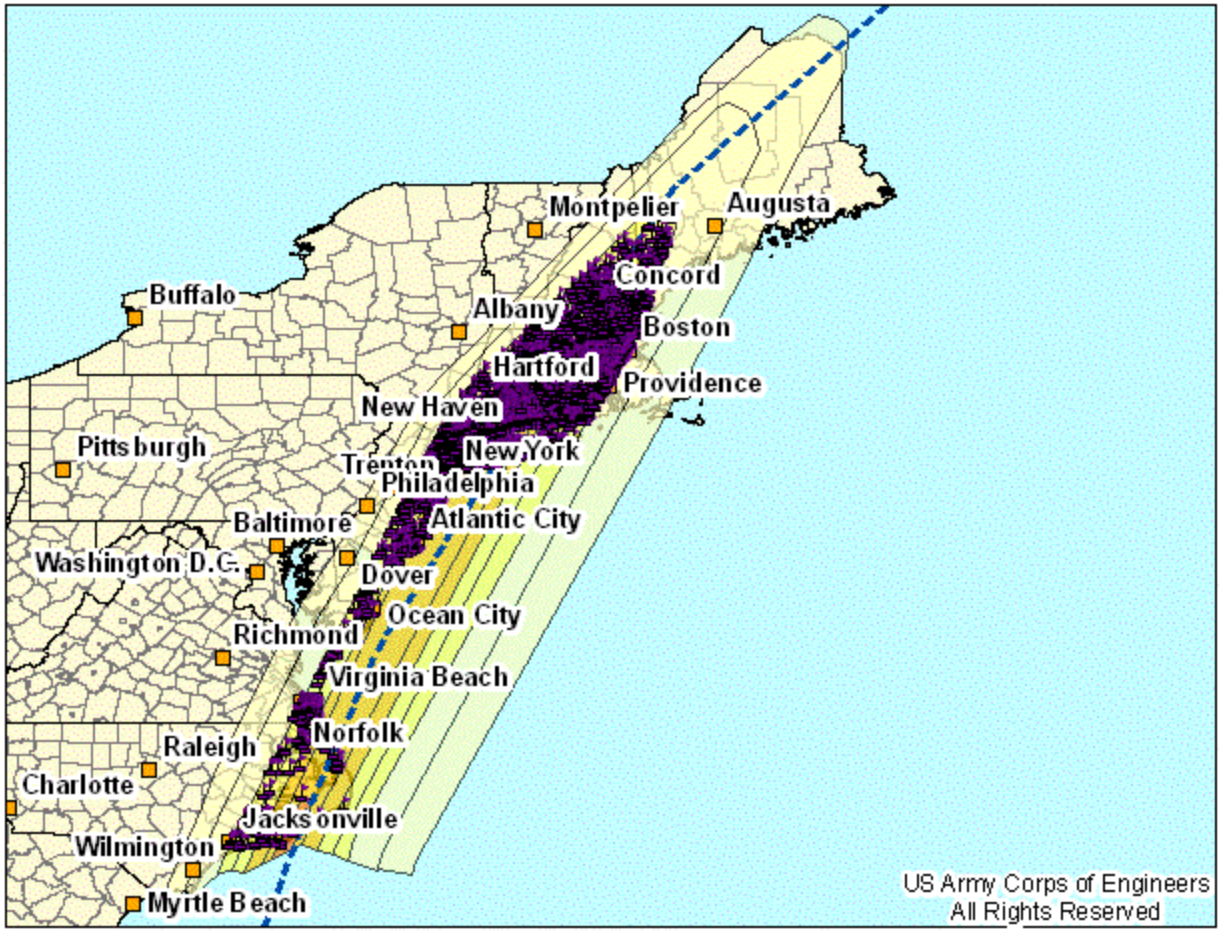
Hurricane Irene Potable Water	
Generated By: Siemsen, LRL 0530 EDT 08/26/2011	
Sources: HURREVAC LRL-DEBRIS	

US Army Corps of Engineers

Hurricane Irene Schools

Landfall Expected In About **30** Hours

For Planning Purposes Only!



0 400 800 Miles

Most Probable Landfall Schools Inside Hurricane Force Winds

New York - 2,551
New Jersey - 1,176
Connecticut - 1,137
Massachusetts - 937
New Hampshire - 372
Virginia - 189
North Carolina - 118
Rhode Island - 85
Maine - 69
Delaware - 18
Maryland - 16
Vermont - 7

Model results per County on following page

This model is based on a Category 3 storm making landfall near Outer Banks, NC.

Schools
Forecast Track

Information provided on this page displays a Category 3 storm making landfall near Outer Banks, NC. These projections are based on information from the NHC (0500 EDT 08/26/2011) forecast.

The number of schools included in this output are those that would be included within estimated hurricane force winds (data source: HSIP Gold 2011).

Details about this model may be obtained at http://www.englink.usace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

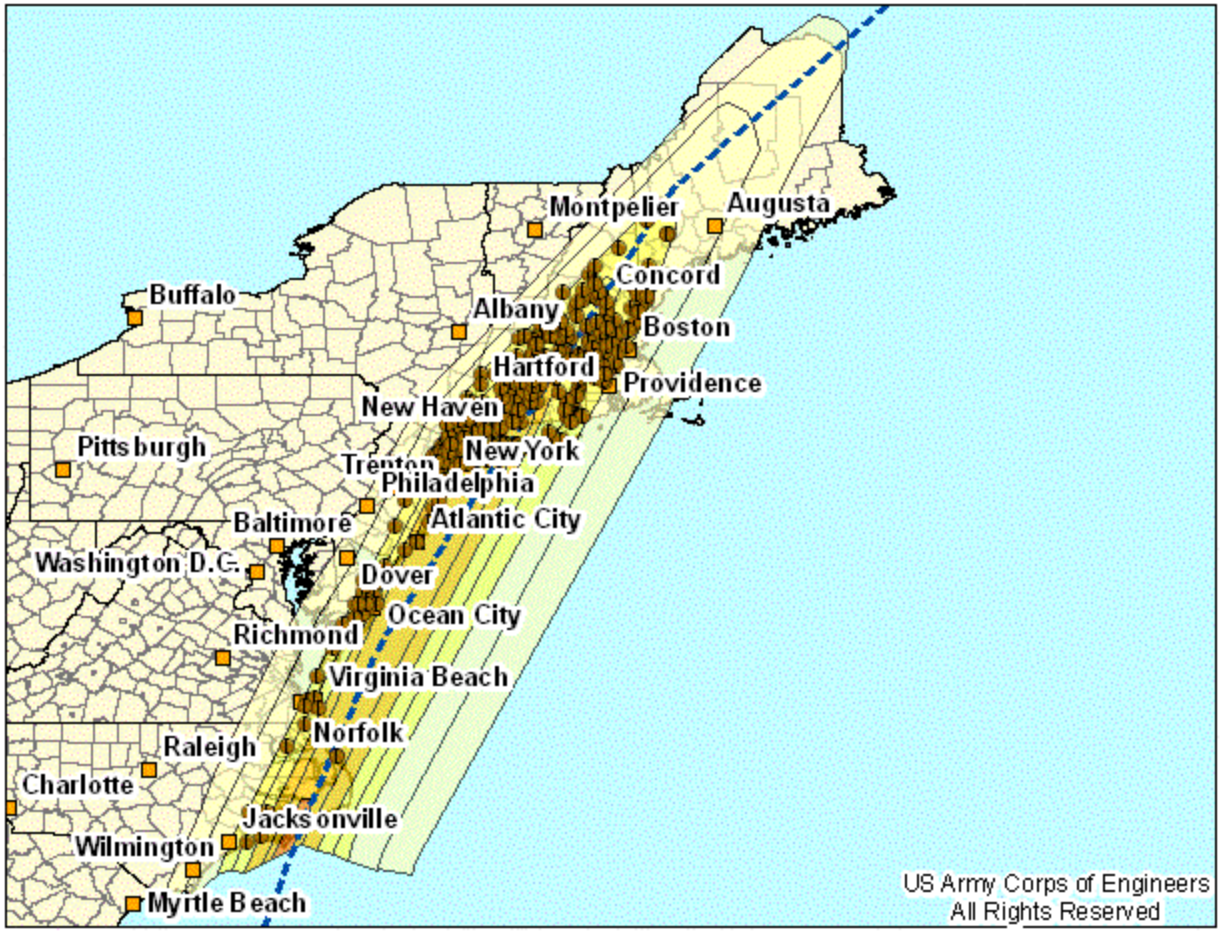
Hurricane Irene Schools	
Generated By: Siemsen, LRL 0530 EDT 08/26/2011	
Sources: HURREVAC LRL-DEBRIS	

Hurricane Irene Sewage Treatment Plants

US Army Corps of Engineers

Landfall Expected In About **30** Hours

For Planning Purposes Only!



Most Probable Landfall Sewage Treatment Plants Inside Hurricane Force Winds

New York - 87
Connecticut - 85
Massachusetts - 84
New Jersey - 52
New Hampshire - 44
Maine - 10
Maryland - 10
North Carolina - 8
Virginia - 7
Rhode Island - 7
Delaware - 6

Model results per County on following page

This model is based on a Category 3 storm making landfall near Outer Banks, NC.

Sewage Treatment Plants
Forecast Track

Information provided on this page displays a Category 3 storm making landfall near Outer Banks, NC. These projections are based on information from the NHC (0500 EDT 08/26/2011) forecast.

The number of sewage treatment plants included in this output are those that would be included within estimated hurricane force winds (data source: HSIP Gold 2011).

Details about this model may be obtained at http://www.englink.usace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Irene Sewage Treatment Plants	
Generated By: Siemsen, LRL 0530 EDT 08/26/2011	
Sources: HURREVAC LRL-DEBRIS	Page 27 of 27